

**Interoffice Memorandum**

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Subject: Monthly Report – August 1997  
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**ORTHODONTIC PRODUCTS****RESEARCH AND EXPLORATORY PRODUCT INVESTIGATIONS****BRACKETS / BUCCAL TUBES**

*CustomR<sub>s</sub>* CUSTOM LABIAL APPLIANCE SYSTEM (Project 853-E Craig Andreiko/Eric Chapoulaud)

- a. Lab Reopening (Craig Andreiko)
  - 1) Accomplishments / Status
    - The design software for custom brackets was implemented in the Set-up software. A set of 10 brackets for the uppers 5x5 of the PK Thomas case was calculated. These developments were made necessary in order to attach the bracket to the jig, using real tip values, through a vertical cylindrical slot, which could not be done otherwise.
    - Software modules were added to our manufacturing program to automatically create a tree assembling the 10 brackets, and create a '.STL' file suitable for the Model Maker wax printer.
    - Attempt were made to print this tree with the new Model Maker II. Note: The vertical cylindrical slot has a diameter of 0.032 in. It was printed correctly and the support material could be removed easily from it without any manual operation.
  - 2) Goals For September
    - Create the Lower Jaw case using the newly scanned images. Implement new modules in the set-up programs to create the mandibular set-up and adapt the occlusion with the maxillary set-up.
    - Successfully print the upper brackets tree and cast it.
    - Manufacture the new jigs with the new attachment.
    - Assemble the upper case, using casted brackets and new jigs.
  - 3) Major Project Milestone
    - ④ 3D JIG Design Review: September 97
- b. 3D Digitizing (Eric Chapoulaud)
  - 1) Accomplishments / Status
    - According to the plan, a 3D Scan of the PK Thomas case lower Jaw has been acquired, using existing software.
  - 2) Goals For September
    - Scan a real clinical case using the same software.
  - 3) Major Project Milestone
    - ④ Clinical case scan: September 97.
- c. Bracket Fabrication (Eric Chapoulaud)
  - 1) Accomplishments / Status

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- A new Build jet and heated line was sent by Sanders to replace our failing one. After replacement, we have been able to print a tree without any significant problems.
- 2) Goals For September
  - Upgrade the model maker software.
  - Print parts to check for accuracy and reliability.
- 3) Major Project Milestone
  - Reliable printing operation: October 97.